



## TRANSLATION OF THE ANNEXES TO THE IPER

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the pores are closed and the pores are uniformly distributed within the body.

In the European patent application EP 0 578 408 A2, on the other hand, the features of claim 1 of the patent are claimed with the difference that the shape of the pores should be spherical and the diameter an average diameter.

- 5 From European patent application EP 0 486 336 A1 and the patent granted thereon, a silicon-carbide-based sintered body is known, which is free from impregnated silicon and which has substantially closed pores in an approximately spherical shape with an average diameter in a range of between 40 and 200  $\mu\text{m}$  or 60 and 200  $\mu\text{m}$  and a true porosity of between 4 and 18%.
- 10 In US patent specification 5,080,378, a sintered silicon carbide body is described, which is used as a sealing ring. With a porosity of 4 to 13 vol.%, the pores have an average diameter of 10 to 40  $\mu\text{m}$ . The pores are rounded, i.e. they must not have any edges, so that no stress peaks can occur in the material bordering the pores when under stress.
- 15 The object of the present invention is to present sintered bodies made of silicon carbide which, owing to the proportion of pores with a defined nominal diameter, can be optimally adapted to the prevailing tribological conditions.

- The object is achieved according to the invention with the aid of the characterising features of the first claim. Advantageous embodiments of the
- 20 invention are claimed in the dependent claims.

- The sintered silicon carbide bodies according to the invention are characterised by a true porosity of 2 to 12 vol.% and spherical pores with a nominal diameter of between 10  $\mu\text{m}$  and 48  $\mu\text{m}$ , the pores being uniformly distributed in the material of the sintered body. The spherical pores preferably have a nominal
- 25 diameter of 15  $\mu\text{m}$  to 45  $\mu\text{m}$ .

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A narrow range of pore diameters is chosen deliberately, since, as a result, open pores with apertures not exceeding the maximum nominal pore diameter and uniformly distributed over the surface are formed on the sliding surface of the sintered bodies, which obtains the required surface quality by a surface treatment, e.g. by grinding, lapping or polishing.

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**New Claim 1**

1. Sintered silicon carbide bodies with a porosity of 2 to 12 vol.%, wherein the porosity consists of unconnected, closed pores, which are uniformly distributed in the material of the bodies, characterised in that the pores are spherical, that they have a nominal diameter of 10  $\mu\text{m}$  to 48  $\mu\text{m}$  and that the diameter of the particles of the pore-forming agent for the production of the pores is in the range of 18  $\mu\text{m}$  to 57  $\mu\text{m}$  before the compaction of the green body of the silicon carbide body.